

*Amended Claims*

WO 00/23545

PCT/NO99/00321

21

*Should be no excess claim fees*

C l a i m s

1. Process for separating and isolating nutritional elements from a material containing lipids and proteins and being of a biological origin, in which process the biological material is either frozen and cut into smaller pieces or vice versa, the material being mechanically processed while frozen to rupture the cell membranes in the biological material and thus destroy structural components in the material,

*Wherein* ~~characterized in that~~ the biological material subsequently is thawed to a temperature within the interval 0°C to 60°C, although below the denaturing temperature for the proteins, said denaturing temperature being the temperature where the proteins in the material start to form agglomerates being visible as strings or a precipitation in the material, whereafter protein and fat/lipids are separated from the resulting composition at a temperature below the found denaturing temperature in a per se known manner, the material being processed at a temperature in the interval 0°C to 60°C provided the lipids under these conditions are liquid and where the proteins are not denatured during the separation.

2. Process according to claim 1, *Wherein* ~~characterized in that~~ the freezing/thawing processes are performed continuously.

3. Process according to claim 1, *Wherein* ~~characterized in that~~ the freezing/thawing process is performed semi-continuously.

4. Process according to ~~any of the claims 1-3~~ *claim 1,* *Wherein* ~~characterized in that~~ the material is frozen to a temperature within the interval -3°C to -50°C, preferably within the interval -5°C to -28°C.

5. Process according to ~~any of the claims 1-4~~ <sup>claim 1</sup>, wherein  
~~characterized in~~ that the mechanical  
processing of the biological material is performed by one  
or more of the methods grinding, milling, chopping or  
5 pressing.

6. Process according to ~~any of the preceding claims~~ <sup>claim 1</sup>, wherein  
~~characterized in~~ that a non-denatured oil  
including non-denatured proteins is isolated from the  
10 biological material.

7. Process according to ~~any of the preceding claims~~ <sup>claim 1</sup>, wherein  
~~characterized in~~ that the grax being left  
over after the processing of the biological material is  
15 used as a nutritional additive in food or feed, or that the  
grax serves as a starting material for further isolation of  
non-denatured proteins or non-denatured trace elements.

8. Process according to claim 7, wherein  
20 ~~characterized in~~ that the isolated trace  
elements are vitamins.

9. Process according to ~~any of the preceding claims~~ <sup>claim 1, wherein</sup>,  
~~characterized in~~ that the process is  
25 performed under a vacuum or under an inert atmosphere.

10. Process according to ~~any of the preceding claims~~ <sup>claim 1, wherein</sup>,  
~~characterized in~~ that cell disrupting  
compounds or compositions are added to the raw material  
30 prior or subsequent to the diminution of the raw material.

11. Process according to ~~any of the preceding claims~~ <sup>claim 10, wherein</sup>,  
~~characterized in~~ that the cell disrupting  
compound(s) is/are enzyme(s), solvent(s), emulsion-bursting  
35 material(s), emulsion-inhibiting solution(s).

12. Process according to ~~any of the preceding claims~~ <sup>claim 1</sup>,

<sup>wherein</sup>  
~~characterized in~~ that one or more anti-oxidant(s) is/are added during the process.